

REMARKS

Claims 1-4, 9-18, and 23-33 remain in the application and have been amended hereby, with claims 5-8 and 19-22 having been cancelled, without prejudice or disclaimer.

Reconsideration is respectfully requested of the rejection of claims 1-8 and 15-22 under 35 USC 103, as being unpatentable over Miracky et al. in view of Hovorka et al.

The present invention relates to an optical communication system in which a data signal, which is a conventional serial data signal, is converted to parallel data signals and then used to energize an array of light emitting elements equal in number to the number of parallel signals in the parallel data signal. The light produced by the light emitting elements is focused onto a photo-diode array that produces a number of parallel output signals that are binarized and then fed to a data selection circuit that selects the same parallel number of signals as in the serial-to-parallel converter and then converts it back to a serial signal forming the output of the system.

In such a system, the transmitter might be in the ceiling and the receiving system on a table or the like. Furthermore, in the present invention the group of light producing elements are controlled in their light emission in accordance with the bit information of the parallel data. The light that is sent to the receiving array is dispersed within a spatially predetermined range that corresponds to the plurality of bits of the parallel data.

The claims have been amended hereby to emphasize the

above-noted features of the present invention.

Miracky et al. relates to a laser communication system in which an array of laser diodes on a transmitter board communicate over an optical path with an array of photodiodes on a receiving board. In between the two boards is located a microelectromechanical system that operates as a beam steering system to steer the laser beams from the transmitting elements to the receiving elements. Nothing is stated in Miracky et al. concerning converting an input serial signal to parallel signals and utilizing the parallel signals to energize an array of light emitting diodes in correspondence to the individual parallel signals, as in the presently claimed invention.

Hovorka et al. relates to a system in which a fluorescent lamp is energized by a high-frequency signal that has been modulated with a data message. The lamp output is then detected by a photo detector and passed through a zero crossing detector and a nonlinear phase locked loop and fed to a two level decoder that decodes the modulated data so that an LCD display is energized to display the data.

It is respectfully submitted that Hovorka et al. does not discuss or suggest the provision of a parallel data signal energizing a light emitting diode array that is equal in number to the number of parallel data signals, as in the presently claimed invention. Furthermore, it is respectfully submitted that nothing in Hovorka et al. could be added to the Miracky et al. system that would result in a system like the

presently claimed invention. Even using the modulated signal approach in the Miracky et al. system would not suggest the present invention, since all that would be employed is simply the modulated signals being fed from one laser to the laser receiver of Miracky et al.

Reconsideration is respectfully requested of the rejection of claim 13 under 35 USC 103, as being unpatentable over Miracky et al. in view of Morozov et al.

Claim 13 relates to a transmitting apparatus in which a light emitting diode array is energized by a number of bits of parallel data, so that the parallel data is converted to optical information in the form of a light beam that is dispersed in a spatially predetermined range.

As noted hereinabove, Miracky et al. fails to disclose the energization of a plurality of light emitting diodes with bits of parallel input signals.

Morozov et al. relates to a communication system that is intended to be so-called contention free, whereby input channels are transmitted to output channels for transmitting data. Thus, Morozov et al. is an interconnection network and it is cited for its statement in column 3 that an input circuit is provided for each input channel and the input circuit operates as a time division demultiplexer or functions like a parallel shift register set in serial in to parallel out mode. Nevertheless, Morozov et al. goes on to state that the input circuit reads a destination tag and transforms the data received in series to data transmitted in parallel. So each message data package is transmitted to the appropriate

input cell.

Nevertheless, it is respectfully submitted that combining Morozov et al. with Hovorka et al. would still not result in the presently claimed invention, as recited in claim 13, because there is no suggestion of basing the light emission on bit information in the parallel data, so as to emit optical information in the form of a light beam dispersed in a spatially predetermined range.

Reconsideration is respectfully requested of the rejection of claim 14 under 35 USC 103, as being unpatentable over Miracky et al. and Morozov et al. and further in view of Hovorka et al.

Claim 14 depends from claim 13, which for the reasons set forth hereinabove is thought to be patentably distinct over the cited references and, for at least those very same reasons, claim 14 is also submitted to be patentably distinct thereover.

Reconsideration is respectfully requested of the rejection of claims 9-12 and 23-26 under 35 USC 103, as being unpatentable over Miracky et al. in view of Hovorka et al. and further in view of Morozov et al.

Claims 9-12 depend from independent claim 1 and claims 23-26 depend from independent claim 15, which independent claims are thought to be patentably distinct over the cited references and, for at least those very same reasons, dependent claims 9-12 and 23-26 are also submitted to be patentably distinct thereover.

Reconsideration is respectfully requested of the rejection of claims 27-33 under 35 USC 103, as being unpatentable over Miracky et al. in view of Hovorka et al. and further in view of Morozov et al.

It is respectfully submitted that even combining the references as proposed by the examiner there is no showing or suggestion in the combination of references of a transmitting apparatus that is controlled in light emission in accordance with the bit information with parallel data fed thereto. No discussion of bit information is found in any of the references and all Morozov et al. discloses is a demultiplexer or the like for demultiplexing input data in order to determine the destination for the data.

Accordingly, by reason of the amendments made to the claims hereby, as well as the above remarks, it is respectfully submitted that a communication system in which the data being transmitted and received is converted into a light beam in which the light beam is energized by the plurality of bits of parallel data fed to the light emitting elements, as taught by the present invention and as recited in the amended claims, is neither shown nor suggested in the cited references, alone or in combination.

Favorable reconsideration is earnestly solicited.

Respectfully submitted,

COOPER & DUNHAM LLP



Jay H. Maioli  
Reg. No. 27, 213

JHM:gr